

Claims

1. A method for producing an embossing plate, in particular a steel intaglio printing plate, having at least one depression in the form of a line brought into the surface of the embossing plate, characterized in that the at least one line defines a limited partial area of the surface, the edge of the at least one partial area defining a desired contour, and a tool track located within the desired contour being determined from the desired contour and a desired depth determining the penetration depth of the engraving tool, an engraving tool being controlled along said track such that the material of the partial area is removed within the desired contour at the predetermined desired depth.

2. The method of claim 1, characterized in that at least part of the tool track extends contour-parallel to the desired contour.

3. ~~The method of claim 1 or 2, characterized in that the desired contour is intersection-free.~~ → ? in what way?

A 4. The method of ~~any of claims 1 to 3~~, characterized in that the desired depth is variable within the tool track.

A 5. The method of ~~any of claims 1 to 3~~, characterized in that the desired depth is constant within the tool track.

6. The method of ~~any of claims 1 to 5~~, characterized in that the material is removed along the tool track within the desired contour by a single working traverse of the graver.

7. The method of ~~any of claims 1 to 6~~, characterized in that an unengraved residual area located within the partial area is removed along a second tool track.

8. The method of claim 7, characterized in that the residual area is removed by controlling the engraving tool such that it removes the surface of the residual area in tracks which are similar or contour-parallel to the desired contour.

9. The method of claim 7, characterized in that the residual area is removed by controlling the engraving tool such that the surface of the residual area is removed in a meander shape.

A 10. The method of ~~any of claims 7 to 9~~, characterized in that the residual area

is removed such that a new surface of defined roughness arises at the base of the engraving of the residual area.

11. The method of claim 10, characterized in that the engraving tool is controlled such that the roughness is executed in the form of grooves. → could be the tool track, not the same as

12. The method of ~~any of claims 1 to 11~~, characterized in that at least part of the surface removed at a predetermined depth is deepened further in one or more further engraving steps. *the engraved residual area*

13. The method of claim 12, characterized in that the one or more further engraving steps produce humanly recognizable or machine-readable information.

Sub 17B 4
A 14. The method of ~~any of claims 1 to 13~~, characterized in that the desired contour is defined with the aid of a data processing system.

A 15. The method of ~~any of claims 1 to 14~~, characterized in that the engraving tool is a laser beam.

A 16. The method of ~~any of claims 1 to 14~~, characterized in that the engraving tool is a mechanical chisel.

17. The method of claim 16, characterized in that the mechanical chisel rotates during engraving.

A 18. The method of ~~any of claims 1 to 17~~, characterized in that engraving tools of different kinds or dimensions are used for producing the embossing plate.

A 19. The method of ~~claims 1 to 18~~, characterized in that several plates are engraved simultaneously. *17B*

Sub 17C 3
A 20. The method of ~~claims 1 to 18~~, characterized in that one plate is engraved with several engraving tools simultaneously.

Sub 17B 5
A 21. The method of claim ~~12 or 13~~, characterized in that the at least one further engraving step is executed with a finer engraving tool than the engraving in the first engraving step.

22. The method of claim 21, characterized in that the at least one further engraving step is performed in a flank sloping from the desired contour.

23. An engraved object, in particular a plate such as an embossing or printing plate, having at least one depression in the form of a line brought into the surface by engraving and having flanks and a bottom, characterized in that the depression has a

substructure representing additional information and the width of the substructure is smaller than that of the depression on the surface of the object.

24. An embossing or intaglio printing plate having at least one depression in the form of a line brought into the surface by engraving and having flanks and a bottom, characterized in that the depression has a substructure whose width is smaller than that of the depression on the surface of the object.

A 25. The object of claim 23 ~~or 24~~, characterized in that the substructure is present on the bottom and/or at least one of the flanks of the depression.

A 26. The engraved object of ~~any of claims 23 to 25~~, characterized in that the substructure extends at least in partial areas parallel to the direction of the line.

A 27. The object of ~~any of claims 23 to 26~~, characterized in that the substructure is meander-shaped.

A 28. The object of ~~any of claims 23 to 27~~, characterized in that the substructure defines a roughness.

A 29. The engraved object of ~~any of claims 23 to 28~~, characterized in that the substructure is incorporated in the form of characters, pictures, patterns or the like.

A 30. The engraved object of ~~any of claims 23 to 29~~, characterized in that the substructure represents machine-readable information.

A 31. The engraved object of ~~any of claims 23 to 30~~, characterized in that the substructure is executed in the form of grooves.

A 32. The engraved object of ~~any of claims 23 to 31~~, characterized in that the substructure is brought in with the aid of a laser beam.

A 33. The engraved object of ~~any of claims 23 to 32~~, characterized in that the substructure is brought in with a mechanical chisel.

A 34. Use of the engraved object of ~~any of claims 23 to 33~~ for producing embossing or printing plates.

A 35. Use of the engraved object of ~~any of claims 23 to 33~~ for producing documents such as papers of value, bank notes, ID cards and the like.